DEPARTMENT OF THE NAVY
NAVAL AIR STATION OCEANA
1750 TOMCAT BOULEVARD
VIRGINIA BEACH, VIRGINIA 23460-2191

IN REPLY REFER TO:
NASOCEANAINST 11260.1
40

04 APR 2000

NAS OCEANA INSTRUCTION 11260.1

Subj: NAS OCEANA NAVY WEIGHT HANDLING EQUIPMENT (WHE) PROGRAM

Ref: (a) SECNAVINST 11260.2 Navy Weight Handling Program for Shore Activities
(b) NAVFAC P-307
(c) NAVAIR 17-1-114 Aircraft Lifting Slings Manual
(d) OPNAVINST 5100.23E Navy Occupational Safety and Health Manual
(e) NAVAIR 00-80R-20 Crash and Salvage Ashore
(f) NAVAIR 00-80T-96 Support Equipment Basic
(g) OPNAVINST 5102.1C Mishap Investigation and Reporting Manual Handling and Safety Manual
(h) PWC Norfolk VA 261200Z AUG 99: Regional Crane Service

Encl: (1) PQS
(2) Tests
(3) Complex Lift Request

1. Purpose

a. Per reference (a), the purpose of this instruction is to establish and maintain a safe and effective Weight Handling Program at Naval Air Station (NAS) Oceana.

b. To define the responsibilities of key command/NAS Oceana personnel in support of the Navy Weight Handling Program for Shore Activities.

c. Identify responsibility of Public Works Center (PWC) Norfolk.

2. Applicability and Scope. The responsibilities assigned by this instruction apply to weight handling functions at NAS Oceana and Nas Oceana Dam Neck Annex. For further reference in this instruction, NAS Oceana includes NAS Oceana Dam Neck

Annex. Equipment governed by this instruction includes the operation of categories (CAT) 1, 2, 3, and 4 cranes, crane rigging gear and miscellaneous lifting equipment. This instruction does not apply to material handling equipment covered by Naval Supply Systems Command criteria or Ground Support Equipment covered by applicable Naval Air Systems Command criteria. NAS Oceana departments affected by this instruction are Aircraft Intermediate Maintenance Department and Air Operations. NAS Oceana Storefronts affected by this instruction are Base Safety, PWC, Supply, Morale Welfare and Recreation, Chambers and Aircraft Intermediate Maintenance Department Norfolk.

3. Discussion. Safe and reliable Weight Handling Equipment (WHE) is critical to the operation of NAS Oceana and the Navy. NAS Oceana uses a variety of WHE to lift damaged aircraft, aircraft engines, electronic equipment, supplies, construction materials, hazardous materials, automobile engines and other items needed to support our mission. Safe conduct of these operations is key to precluding personnel injury or damage to equipment. All WHE must be properly operated, maintained, inspected, tested, and certified per references (b) and (c) as applicable. Personnel involved in the WHE program must be properly trained and qualified. To ensure program compliance, policies must be established with centralized oversight and technical control.

4. Definitions

a. WHE consists of, but is not limited to, cranes (e.g., portal cranes, mobile cranes, bridge cranes, monorails, and hoists), rigging gear (e.g., slings, shackles) and associated equipment (e.g., chainfalls, dynamometers).

b. Generally, NAS Oceana WHE may be categorized as follows:

CAT 1 - includes aircraft crash crane and mobile cranes

CAT 2 - overhead traveling cranes, jibs, monorails, capacity 20,000 pounds and greater.

CAT 3 - overhead hoists, monorails, jibs. Capacity less than 20,000 pounds.

CAT 4 - commercial truck mounted cranes (usually

contractors).

c. Certification is the process by which, on a periodic basis, WHE is inspected, weight tested and approved for use at a Navy shore activity.

5. Responsibilities

a. The Commanding Officer of NAS Oceana is overall responsible for ensuring WHE safety and program compliance within the activity. The Commanding Officer shall designate, in writing, a WHE Program Coordinator.

b. Department Heads may create local SOPs specific to their environment. All SOPs will have the approval of the designated NAS Oceana WHE Program Coordinator. Department Heads are also responsible for maintaining a current copy of the NAVFAC P-307.

c. WHE Program Coordinator. Responsible to the Commanding Officer NAS Oceana for the overall management, administration and record keeping of the WHE Program at NAS Oceana. The WHE Program Coordinator shall be the NAS Oceana liaison on all matters pertaining to the WHE Program. The Safety Storefront Officer or his/her direct representative shall be assigned as the WHE Program Coordinator.

d. Certifying Official. Responsible to the Commanding Officer, NAS Oceana for ensuring all WHE is inspected, tested and is safe to use for its intended purpose. The Commanding Officer, Navy Public Works Center (PWC), Norfolk/Regional Engineer, has been designated by the Commander, Naval Region, Mid-Atlantic (CNRMA) as the region's WHE Certifying Official. In turn, this responsibility is delegated to the Director, Certification Management Division, Facility Management Department, PWC, Norfolk.

e. Departmental WHE Representative. Responsible to the Program Manager for ensuring WHE Program compliance within the department.

f. Division Officers will be the final authority for all qualifications obtained within their division. Per reference (b), Division Officers will ensure that WHE utilized within their division performs Operator Daily Checklist (ODCL)

performed prior to every use. Report any discrepancies to PWC for maintenance.

g. Workcenter Supervisors will ensure personnel are properly trained with WHE and appropriate precautions are taken in preparation for inclement weather per Equipment Operator's Manual (EOM) and reference (b). The weather conditions shall be posted inside the operators cab, CAT 1 crane. Do not operate with winds above 25 knots and during severe lightning conditions.

h. WHE Operator shall be properly trained, licensed and perform his/her perspective duties per reference (b), appendix N.

i. WHE Safety Observer shall be an E-5 or above qualified in the same proficiencies as the Rigger/Rigger-in-Charge (signalman).

j. WHE Rigger and Rigger-in-Charge (signalman) shall be trained and qualified per reference (b), appendix N.

6. Program Oversight

a. Director Navy Crane Center (NCC) is responsible for the management and oversight of the Navy WHE Program. Reference (a) requires NCC to conduct audits of the WHE program on a periodic basis. Prior to the audit, reference (a) requires each activity to perform a self-assessment of their program to identify potential problem areas and deficiencies to be resolved prior to the audit. NCC provides a checklist to aid the activity in assessing the program.

b. The Safety Manager shall provide oversight of the safety aspects of the WHE Program including safety inspections, evaluations, assessments, audits, risk assessments, mishap investigations and crane accident investigations per reference (b).

c. Department WHE Program representatives shall monitor/audit their program on a quarterly basis, utilizing the Navy Crane Center self-assessment checklist. Departmental

assessments shall be maintained on file for a minimum of one year.

7. Equipment History File. PWC shall establish and maintain an Equipment History File on each unit of WHE per reference (b). These files shall be made available to Government Oversight Agencies (e.g., OSHA, Navy Crane Center) upon request. Record formats may be locally produced, locally generated (with a minimum of the required information), or parts of the forms contained in reference (b) may be deleted if not applicable to the subject WHE.

8. Certification of WHE

a. Per reference (d), WHE that is not under current certification shall be locked/tagged out of service until it is recertified. WHE shall not be returned to service prior to the signature of the Certifying Official, except as provided in reference (b).

b. Certification frequency. Except as noted in reference (b), a crane requires an annual certification, to include load testing.

c. Interim recertification may be required under certain circumstances, such as exceeding certified capacity during operation, or after certain maintenance actions are performed.

d. Load testing shall be performed per reference (b).

9. Inspections. Public Works will perform required maintenance inspections and maintenance. Maintenance inspections shall consist of observing the function of specified components before, during and after operations. Examinations will be conducted by the Certifying Officer and shall be by sight, sound, touch and, as necessary, instrumentation, non-destructive testing and disassembly. Disassembly usually limited to abnormal conditions, Original Equipment Manufacturer (OEM) intervals, or local experience when failure or malfunction indicates further inspection is necessary. The Certifying

Official is the authority for determining extent and depth of inspection.

a. If a failure or malfunction occurs/deficiency is detected which has broad applicability at other activities, the Crane Center must be notified within five days. The inoperable equipment must be shut down and tagged out until restored to a safe working condition deemed by a certifying official.

b. Annual and conditional maintenance inspection specifications are set forth in reference (b), appendices C and D. Specification data sheets shall be used to augment the specifications to aid inspectors with guidance and technical information. PWC shall develop the specification data sheets.

c. Extension of inspection and maintenance schedules. The Commanding Officer NAS Oceana may delegate authority to the Certifying Official to extend or adjust a prescribed inspection or servicing schedule when it conflicts with work schedule or results in a duplication. This authority shall be in writing and filed in the Equipment History File.

10. Crane Alterations. Except as noted in reference (b), crane alterations to load bearing parts, load-controlling parts, or operational safety devices shall be approved by the NCC. All crane alterations, whether locally or NCC approved shall be fully documented in the Crane Equipment History File. All requests for crane ALT/MOD shall be processed via Code 410, PWC, Norfolk. Additionally, Code 410, PWC, Norfolk shall track all Crane Safety Advisories (CSA) issued by the NCC, as well as all required corrective actions.

11. CAT 1, 2, and 4 Crane Operators shall be tested and licensed through PWC or through an established, licensed program. CAT 3 Crane Operators shall be trained and tested per reference (b).

12. Crane Crew (Operator, Safety Observer, Rigger and Rigger-in-Charge (signalman) shall successfully complete the enclosures as applicable.

a. Licensed Operators (CAT 1,2,4)

(1) Per enclosures (1) and (2), WHE trainees must satisfactorily complete all the applicable PQS and Test(s). A physical examination by a licensed health care professional is required. For a previously qualified operator, deviations from the physical requirements are not necessarily totally disqualifying and shall be given special consideration by competent medical and management authorities. In such cases, waivers may be recommended but must be approved by the Commanding Officer. Any limitations imposed by reason of physical defects shall be noted on the operator's crane license and license record.

(2) Additional personal or physical qualifications for operating specific items of equipment may be required.

(3) Grounds for Disqualification. Factors which may cause disqualification of an operator or applicant include:

(a) Poor attitude or emotional instability which would render an applicant a hazard to self or others, or possibly interfere with the safe or efficient performance of duties.

(b) Analysis of accident reports involving the applicant. Findings of misuse or improper handling of WHE will result in the revocation of qualifications.

(c) Results of specialized tests.

b. <u>WHE Personnel Licensing</u>

(1) All personnel, except contractor personnel, who are assigned duties involving the operation of Navy shore based CAT 1, 2, cab operated CAT 3, or CAT 4 WHE shall be qualified and licensed per reference (b).

(2) Licensed operators shall have such licenses in their possession when operating cranes.

(3) Incidental licenses. Maintenance and inspection personnel who operate WHE incidental to maintenance of the equipment shall be tested and licensed per the exceptions listed in reference (b).

(4) A license is not required for operators of non-cab operated CAT 3 WHE. However, all operators of this type equipment shall be trained in and demonstrate adequate knowledge of the areas identified in reference (b), appendix N and applicable enclosures. Training shall be documented and maintained by the operator's division in individual training records, to be made available for review by oversight/inspection organizations.

(a) Personnel who license operators must be formally trained, certified and designated to teach the type of equipment the trainee will be required to operate. Training may be obtained through PWC Norfolk or through an established program. Formal training shall be requested from the Norfolk Naval Shipyard, Consolidated Training Office (Code 900T), Portsmouth at 396-7595, PWC Norfolk, or through an established licensed program.

c. Requirements and Procedures for Obtaining a License. Reference (b) clearly defines the requirements that must be met for obtaining a WHE operator's license. At a minimum, applicants shall:

(1) Receive formal crane safety training for the cranes to be operated. This training shall consist of a 40 hour course of instruction and requires passing a written examination and performance test for each type of crane for which a license is to be issued.

(2) Pass current health exam and participate in refresher training every two years.

13. Operational Safety Procedures. Reference (b), section 10, references (c), (e) and (f) contain specific guidelines concerning crane operational safety procedures, crane team member responsibilities, safety devices, communications, adverse operations, and other safety precautions to be observed. Per reference (d), section 20, hardhats shall be worn during all lifts and where applicable cranials on the flight line or jet noise area. Complex lifts are restricted maneuverability areas, high dollar items in excess of $100,000, blind areas, or any lift over 80% of the crane's rated capacity. Any complex lifts performed will require a complex lift request per enclosure (3).

The following will be complex lifts and will add a safety observer as a crane crew member:

- large and geometric shapes (i.e. engines, engines in cans and aircraft)

- non-routine

- different operations

- sensitive equipment

- unusual safety risks

14. Investigation and Reporting of WHE accidents. In addition to the investigation and reporting requirements of references (d) and (g), activities shall investigate and report crane accidents per reference (b), section 12. Accident reports must be kept on file in the crane history record for seven years. NAS Oceana Safety Storefront will be responsible for conducting an investigation and reporting WHE accidents. Safety Storefront will also be responsible for forwarding accident reports to PWC for filing in the Crane History Jacket.

15. The following requirements are specified for General Purpose Rigging Gear (not subject to NAVAIR standards) Crane Rigging Gear and Miscellaneous Equipment. Special slings and NAVAIR lifting gear will be maintained and inspected per reference (e) and applicable NAVAIR instructions.

(3) Portable chainfalls and hoists (except chainfalls which are designated for use at the same location on a continuing basis).

(4) Portable A-Frames, portable gantries, and portable floor cranes used for general lifting.

(5) Cranes and hoists procured with, integral to, and used solely in support of larger machine systems (milling machines, press brakes, etc.).

b. Equipment Markings. Each piece of applicable equipment or gear shall be tagged, engraved, or otherwise marked per reference (b). Markings on equipment shall include: (1) marked with rated load, (2) indication of reinspection due date, and (3) rigging hardware must have manufacturing logo.

c. Test and Inspection. Each division responsible for maintaining miscellaneous lifting equipment described in paragraph 15.a. shall establish a program for applicable equipment, including initial visual inspection and load test, followed by pre-use and documented periodic visual inspections. For any unsatisfactory equipment and gear, refer to PWC for resolution. Activities may choose to send rigging gear to Code 341, PWC for initial strength testing and marking.

d. Periodic inspection criteria, load testing, repairs and alterations of applicable equipment shall be performed per reference (b), section 14.

16. Non-Navy Owned Cranes at NAS Oceana. References (b) and (h) contain specific requirements concerning Rented, Leased and Contractor Operated Cranes and will be strictly adhered to. NAS Oceana Safety Storefront will be responsible for checking the applicable standard operating procedures and licenses to ensure NAS Oceana WHE Program compliance.

W. C. ZOBEL

Distribution:
NASOCEANAINST 5216.1V
List I (Case A), III and IV

QUALIFICATION FOR RIGGER/RIGGER-IN-CHARGE (SIGNALMAN) (COMPLEX AND NON-COMPLEX)

The following is a qualification standard for personnel who will be expected to perform weight-handling operations on board NAS Oceana. All lines require the signature of a designated qualifier (as per NAS Oceana Weight Handling Equipment Instruction) as well as the date of each task accomplished. Required crane lifts may not be completed in the same day.

Supervisors should not "give" their signatures away. Qualifying personnel will need to demonstrate the necessary skills outlined in the NAVFAC P-307, NA17-1-114, and knowledge of applicable guidelines in the OPNAVINST 5100.23E.

I,_____, understand that I will be allowed
(print)
Four (4) months from the start date to complete this PQS. Failure to complete this PQS within the allotted time may result in having to restart the entire qualification process.

_____
Shop Supervisor

_____
Applicant

Start date: _____

Completion date: _____

Test score: _____

Qualification for Category III crane rigger/ rigger-in-charge(Signalman)

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Prerequisites

1. Workcenter Supervisor recommendation. _____

2. Read sections 10, 11, 12, and 14 of the NAVFAC P-307. _____

3. Read sections 003-005 of the NA17-1-114. _____

Safety

1. Describe the safety gear required by the crane crew. _____

2. Describe safety practices to be followed when working around the crane. _____

3. Explain the dangers of operating a crane near or around high voltage power sources. _____

4. Explain the purpose of the tag-out system as outlined in the OPNAVINST5100.23E. _____

5. Use proper procedure to bypass limit switches. _____

Rigging

1. Demonstrate proper inspection of the following items:

   a. 4-leg slings _____

   b. Shackles _____

   c. Self mousing hook _____

   d. Eye bolts _____

   e. Tag lines _____

   f. Specialized lifting slings and fittings _____

2. Demonstrate proper rigging of the following devices:

   a. 4-leg slings _____

   b. Shackles _____

   c. Self-mousing hook _____

   d. Eye bolts _____

   e. Tag lines _____

   f. Specialized lifting slings and fittings _____

   g. Tie a bowline _____

3. Rig six lifts (any type) under qualified supervision. _____

   _____

   _____

   _____

   _____

   _____

3. Describe the required markings on rigging gear, in reference to weight handling.

   _____

4. Describe the different types of end connections used on the wire rope assemblies associated with rigging gear used in the workcenter.

   _____

5. Perform a pre-use inspection of rigging gear (ie., hooks, wire rope slings, shackles, etc.)

   _____

6. Determine the center of gravity of a load to be lifted.

   _____

7. Describe the load path. _____

8. Discuss proper sling angles and safe lifting points. _____

Rigger-in-charge

1. Demonstrate proper use of hand signals. _____

2. Explain when a lift becomes a "complex lift" _____

3. Demonstrate procedures for estimating the weight of an unknown load IAW the NAVFAC P-307. _____

4. Explain the purpose of the limit switches. _____

5. Describe two-blocking and the dangers associated. _____

7. Demonstrate knowledge of the crane and its associated parts by naming the functional sections of the crane and stating their primary purpose. _____

8. Perform, under qualified supervision, six crane lifts of any type.

_____

_____

_____

_____

_____

_____

8. Perform, under qualified supervision, the safety brief for a complex lift. _____

10. Perform, under qualified supervision, four (4) complex lifts.

_____

_____

_____

_____

11. Explain criteria for a crane mishap. _____

Test and Interview

1. Pass written examination with a score of 95% or higher. _____
   Test monitor sign/date
2. Interview with shop supervisor. _____
   Shop supervisor
3. Interview with Crane Supervisor. _____
   Crane Supervisor

Final Approval

1. Department Crane Officer approval. _____
   Crane Officer

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QUALIFICATION FOR CATEGORY III CRANE OPERATOR

The following is a qualification standard for personnel who will be expected to perform weight-handling operations on board NAS Oceana. All lines require the signature of a designated qualifier (as per NAS Oceana Weight Handling Equipment Instruction) as well as the date of each task accomplished. Required crane lifts may not be completed in the same day.

Supervisors should not "give" their signatures away. Qualifying personnel will need to demonstrate the necessary skills outlined in the NAVFAC P-307, NA17-1-114, and knowledge of applicable guidelines in the OPNAVINST 5100.23E.

I,_____, understand that I will be allowed
(print)
Four (4) months from the start date to complete this PQS. Failure to complete this PQS within the allotted time may result in having to restart the entire qualification process.

_____
Shop Supervisor

_____
Applicant

Start date: _____

Completion date: _____

Test score: _____

Qualification for Category III crane operator

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Prerequisites

1. Workcenter Supervisor recommendation. _____
2. Read sections 4, 7, 9, 10, 11, 12, and 14 of the NAVFAC P-307. _____
3. Read work package 003-005 in NAVAIR 17-1-114. _____

Safety

1. Describe safety gear required by the crane crew. _____
2. Describe the safety practices to be followed when working around the crane.

   _____
3. Explain the dangers of operating a crane near or around high voltage power sources.

   _____
4. Describe in writing *(attach to this PQS)* your responsibilities as a crane operator.

   _____
5. Explain the purpose of the lockout/tagout program and how it impacts crane operations.

   _____
6. Describe the function of the crane limit switches and the requirements for bypassing them.

   _____

Inspection

1. Demonstrate proper performance of Operators Daily Checklist (ODCL).

   _____
2. Explain the purpose of the ODCL. _____

Load Handling

1. Describe what is meant by load path. _____
2. Plan out load paths for three weight handling evolutions. _____

3. Determine the weight of a load to be lifted. _____

4. Demonstrate knowledge and ability to follow standard hand signals.

_____

5. Supervise rigging of load to be lifted, ensuring proper attachment at lifting points and proper center of gravity.

_____

6. Under qualified supervision, perform six (6) weight-handling operations.

_____

_____

_____

_____

_____

_____

7. Under qualified supervision, perform four (4) complex lifts.

_____

_____

_____

_____

Rigging

1. Demonstrate proper inspection of the following items:

   a. 4-leg slings _____

   b. Shackles _____

   c. Self-mousing hook _____

   d. Eye bolts _____

   e. Tag lines _____

   f. Specialized lifting slings and fittings _____

2. Demonstrate proper rigging of the following devices:

   a. 4-leg slings _____

   b. Shackles _____

   c. Self-mousing hook _____

   d. Eye bolts _____

   e. Tag lines _____

   f. Specialized lifting slings and fittings _____

   g. Tie a bowline _____

General

1. IAW NAVFAC P-307 explain procedures for reporting an equipment deficiency associated with weight handling devices.

   _____

2. Explain criteria for a crane mishap. _____

3. Explain two-blocking. _____

Test and Interview

1. Pass written examination with a score of 95% or higher.

   _____
   Test monitor sign/date

2. Interview with shop supervisor.

   _____
   Shop supervisor

3. Interview with Crane Supervisor.

   _____
   Crane Supervisor

Final Approval

1. Crane Officer approval.

   _____
   Crane Officer

QUALIFICATION AS CRANE SAFETY OBSERVER

The following is a qualification standard for personnel who will be expected to perform weight-handling operations on board NAS Oceana. All lines require the signature of a designated qualifier (as per NAS Oceana Weight Handling Equipment Instruction) as well as the date of each task accomplished. Required crane lifts may not be completed in the same day.

Supervisors should not "give" their signatures away. Qualifying personnel will need to demonstrate the necessary skills outlined in the NAVFAC P-307, NA17-1 -114, and knowledge of applicable guidelines in the OPNAVINST 5100.23E.

I,_____, understand that I will be allowed
(print)
Four (4) months from the start date to complete this PQS. Failure to complete this PQS within the allotted time may result in having to restart the entire qualification process.

_____
Shop Supervisor

_____
Applicant

Start date: _____

Completion date: _____

Test score: _____

Prerequisites

1. Be an E-5 or above. _____
2. Read work package 003-005 in NA17-1-114. _____
3. Read sections 4, 7, 9, 10-12, and 14 in the NAVFAC P-307.

_____

Safety

1. Describe safety gear worn by the crane crew. _____
2. Describe the safety practices to be followed when working around the crane.

_____

3. Explain the dangers of operating a crane near or around high voltage power sources.

_____

4. Describe in writing (*attach to this PQS*) your responsibilities as a crane safety observer.

_____

5. Explain the purpose of the crane limit switches and requirements for bypassing them.

_____

6. Describe the lockout/tagout program and explain its importance to crane safety.

_____

7. Explain the purpose of inspecting the lifting slings.

Rigging

1. Demonstrate proper inspection of the following items:
   a. 4-leg slings _____
   b. Shackles _____
   c. Self-mousing hook _____
   d. Eye bolts _____
   e. Tag lines _____
   f. Specialized lifting slings and fittings _____

2. Demonstrate knowledge and understanding of standard hand signals. _____

3. Describe the required markings on rigging gear. _____

4. Observe a pre-use inspection of rigging gear. _____

5. Describe load path. _____

6. Discuss proper sling angles and safe lifting points. _____

7. Explain when a lift becomes a "complex lift". _____

8. Describe two-blocking and the dangers associated. _____

9. Explain criteria and procedures of a crane mishap. _____

Performance

1. Under qualified supervision, act as the safety observer for six (6) complex lifts.

_____

_____

_____

_____

_____

_____

2. Explain any circumstance, which would require the safety observer to become involved with the load handling operation. _____

3. Conduct the pre-lift safety brief. _____

Test and Review

1. Pass written examination with a score of 95% or higher.

_____
Test monitor sign/date

2. Interview with shop supervisor.

_____
Shop supervisor

3. Interview with Crane Supervisor.

_____
Crane Supervisor

Final Approval

1. Departmental Crane Officer approval.

_____
Crane Officer

Rigger/Rigger-in-Charge Exam

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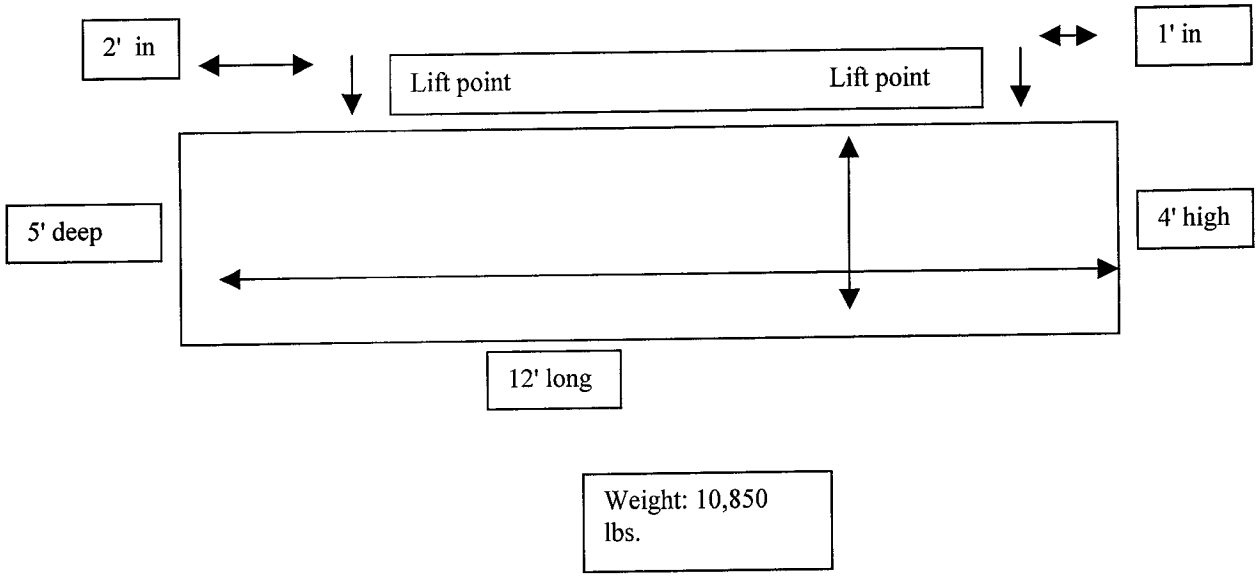
1. Who is responsible for the overall control of the lift?
2. What safety gear does the crane crew wear?
3. What two pieces of information should rigging gear be marked with?
4. What is the definition of a crane accident?
5. How should rigging gear be sized for a four-point lift?
6. When should a tagline be used during crane operations?
7. Who is responsible for making certain that a load is properly secured and balanced before a lift is made?
8. Who has primary responsibility for determining the weight of an object to be hoisted?
9. What is the proper method for selecting shackles?
10. List the wire rope inspection rejection criteria.
11. What is the minimum sling angle, from horizontal, allowed when lifting loads?
12. How often is rigging gear inspected?
13. What is a complex lift?
14. What publication describes crane operational requirements for shore activities?
15. Using the supplied chart calculate the approximate weight of the following:
    a. 3-steel pipes. Each pipe is 1 foot in diameter by eight feet long.
    b. 5-two foot in diameter by three feet long.
16. List three types of limit switches.

17. What is two blocking?

18. What is a routine lift?

19. Describe the hand signal for emergency stop.

Using the following diagram, illustrate the safest most effective way to lift this load.



CAT III Crane Operators Exam

1. What is the operator's main concern during crane operations?

2. When are crane operators required to perform an inspection of the crane?

3. During performance of your pre-operational check you find discrepancies. What do you do?

4. Who is responsible for cleanliness and housekeeping of the crane?

5. When is it permissible for an operator to leave the controls of a crane while a load is suspended from the hook?

6. What signal may an operator obey from a person other than the designated signal giver?

7. Is it necessary for the operator to see the load or work area?

8. Who has the primary responsibility for determining the weight of an object to be hoisted?

9. Who is responsible for making certain that a load is properly secured and balanced before a lift is made?

10. When should a tagline be used during lifting operations?

11. What is a complex lift?

12. What is the definition of a crane accident?

13. What publication describes crane operational requirements for shore activities?

14. List the wire rope inspection rejection criteria.

15. List three types of limit switches.

16. What is two blocking?

17. What is a routine lift?

18. Describe the hand signal for hoist.

19. What markings are required on the crane?

20. What is the minimum sling angle, from horizontal, allowed when lifting loads?

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Safety Observer Exam

1. What is the safety observer's primary responsibility?

2. When is a safety observer required for a lift?

3. What safety gear is the crane crew required to wear?

4. How often is rigging gear inspected?

5. What is a complex lift?

6. What is two blocking?

7. What two pieces of information should rigging gear be marked with?

8. What publication describes crane operational requirements for shore activities?

9. How should rigging gear be sized for a four point lift?

10. What is the minimum sling angle, from horizontal, allowed when lifting loads?

11. List the wire rope inspection rejection criteria?

12. What signal may an operator obey from a person other than the designated signal giver?

13. Is it necessary for the operator to see the load or work area?

14. Who has the primary responsibility for determining the weight of an object to be hoisted?

15. When should a tagline be used during lifting operations?

16. When is it permissible for an operator to leave the controls of a crane while a load is suspended from the hook?

17. Who is responsible for making certain that a load is properly secured and balanced before a lift is made?

18. What is the definition of a crane accident?

Complex Lift Request

1. Date: _____

2. Time: _____

3. W/C: _____

4. Crane to be used (include capacity of crane).

   _____

5. Load to be lifted:

   _____

6. Weight of load:

   _____

7. Crane crew:

   _____ Rigger in charge

   _____ Operator

   _____ Rigger

   _____ Rigger

   _____ Safety observer

7. Location:

   _____ Beginning

   _____ Ending

8. Rigging gear to be used:

   _____

   _____

   _____

   _____

9. Special precautions to be followed:

   _____

   _____

   _____

   _____

10. ODCL performed at beginning of shift?

_____ yes _____ no

11. Lift plan:

_____

_____

_____

_____

_____

_____

12. Pre-lift safety brief conducted.

_____
Rigger in charge sign/date

_____
Safety observer sign/date

13. Permission to conduct lift.

_____
Production control